

REMARKS / DISCUSSION OF ISSUES

Claims 1-17 are pending in the application. Claims 1 and 13 are the independent claims.

Rejections under 35 U.S.C. § 102

Claims 1-8 and 11-12 were rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by *Nakamura, et al.* (US Patent 5,469,852). For at least the following reasons, Applicants respectfully submit that claims 1-8 and 11-12 are patentable over *Nakamura, et al.*

At the outset Applicants rely at least on the following standards with regard to proper rejections under 35 U.S.C. § 102. Notably, a proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

Claim 1:

Claim 1 recites:

An ultrasound probe, comprising:

a housing including a plurality of seams, each of which extends from an exterior

of said housing to an interior of said housing;

a sensor assembly arranged in said housing and including electrically conductive parts, said sensor assembly being arranged to transmit and receive waves; and

an acoustic window along a side of the probe;

an acoustic matching layer arranged in said housing between said electrically conductive parts of said sensor assembly and each of the seams, wherein one of the seams is not along the side of the acoustic window, said acoustic matching layer being arranged to acoustically influence waves transmitted and received by said sensor assembly in a desired manner.

For example, seam 30 shown in Fig. 1 is on a different side than acoustic window 18. The applied art fails to disclose at least this feature of claim 1. Therefore, and while it remains unclear whether there is a seam on the side of the probe having the window 44 in *Nakamura, et al.*, there is no disclosure of a seam on any other side; and especially a seam having an acoustic matching layer arranged as claimed.

Therefore, Applicants respectfully submit that the applied art fails to disclose at least one feature of claim 1, and claim 1 is therefore patentable over *Nakamura, et al.* Moreover, claims 2-12, which depend from claim 1, are patentable for at least the same reasons and in view of their additionally recited subject matter.

Rejections under 35 U.S.C. § 103

Claims 13-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Nakamura, et al.* and *Tanaka, et al.* (US Patent 5,368,036).

Claims 9, 10 and 17 are rejected under this section of the Code. These claims depend from variously from claim 1 or claim 13, and are patentable for at least the same reasons as their respective independent claims.

Among the requirements of a proper rejection for obviousness, are the requirements that all elements of a claim must be disclosed in the applied art, the combination of references must be properly motivated, and not based on hindsight. In *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727; 82 U.S.P.Q.2D 1385 (2007), the Court

stated "A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning. See *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966) (warning against a "temptation to read into the prior art the teachings of the invention in issue" and instructing courts to "guard against slipping into the use of hindsight" (quoting *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F.2d 406, 412 (CA6 1964)))." Moreover, if there is no suggestion to combine the teachings of the applied art, other than the use of Applicants' invention as a template for its own reconstruction, a rejection for obviousness is improper. *Ex parte Crawford, et al.* Appeal 20062429, May 30, 2007. In furtherance to the need for the suggestion to combine the teachings of the applied art, it is established that rejections on obviousness grounds cannot be sustained by mere conclusory statements: instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l v. Teleflex*, 127 S. Ct. at 1741.

i. Claim 13

An ultrasound probe, comprising:

a housing;

a sensor assembly arranged in said housing and including electrically conductive parts, said sensor assembly being arranged to transmit and receive waves; and

an acoustic matching layer wrapped around said electrically conductive parts to electrically isolate said electrically conductive parts from said housing, said acoustic matching layer being arranged to acoustically influence waves transmitted and received by said sensor assembly in a desired manner.

The Office Action concedes that *Nakamura, et al.* fails to disclose an acoustic matching layer wrapped around conductive parts as claimed; and turns to *Tanaka, et al.* in an attempt to remedy this deficiency. Applicants respectfully submit that not only is the deficiency not presented in *Tanaka, et al.*, but also the references are not properly combined.

The Office Action directs Applicants to the end cap 15 of the reference to *Tanaka, et al.* This end cap is the outer portion of the probe 1, and thus, at best may be considered the housing of claim 1. Moreover, while the end cap comprises material selected for its acoustic characteristics (See column 5, lines 25-35), the end cap 15 functions as the transmitter (i.e., acoustic lens) of the probe. Namely, the reference discloses:

“In contrast, considering that the ultrasound signals are transmitted and received through the end cap 15, it is paramount to form the end cap 15 from a material with excellent properties in transmittance of ultrasound signals,...”

Thus, *Tanaka, et al.* goes into detail of the needs for suitable material to transmit ultrasound waves via the end cap, there is no disclosure or any fair suggestion that the end cap provides any acoustic matching as specifically claimed.

In addition, the motivation or suggestion to combine references is not proper. As noted above, it is established that rejections on obviousness grounds cannot be sustained by mere conclusory statements: instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. Here, there is no disclosure in *Tanaka, et al.* of the need for or the use of an acoustic matching layer, and especially no disclosure of the need to electrically isolate electrically conductive parts from a housing.

Moreover, the Examiner’s alleged basis for combining *Nakamura, et al.* and *Tanaka, et al.* is without basis:

“It would have been obvious to the skilled artisan to modify this layer to replace the acoustic matching layer of *Nakamura, et al.* with a matching layer that wraps around the conductive parts as taught by *Tanaka, et al.* in order to protect the electrically conductive parts of the probe.”

Respectfully, the basis of using an alleged acoustic matching layer for protective purposes would not be something that one skilled in the art would do, especially when one considers that *Nakamura, et al.* provides a housing that would already function to this end. Rather than providing an articulated reasoning with some rational underpinning to

support the legal conclusion of obviousness, the Examiner has cobbled a rejection with pieces of different references, held together with adhesive in motivation that would neither be required by nor supported by the references applied in the rejection. Thus, the motivation to combine references is merely one of hindsight, and not reasonably related to the problem of acoustic matching.

For at least the reasons set forth above, Applicants respectfully submit that not only does the applied art fail to disclose at least one feature of claim 13, but also that the motivation to combine references is improper. Therefore, claim 13 is patentable over the applied art. Moreover, claims 14-17, which depend from claim 13, are patentable for at least the same reasons.

Conclusion

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies to charge payment or credit any overpayment to Deposit Account Number 50-0238 for any additional fees, including, but not limited to, the fees under 37 C.F.R. §1.16 or under 37 C.F.R. §1.17.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
Phillips Electronics North America Corp.

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